



भारत सरकार GOVERNMENT OF INDIA
खान मंत्रालय MINISTRY OF MINES
भारतीय खान ब्यूरो INDIAN BUREAU OF MINES
क्षेत्रीय खान नियंत्रक के कार्यालय
OFFICE OF THE REGIONAL CONTROLLER OF MINES



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No. RMP/A/30-ORI/BHU/2020-21

Date: 22.10.2020

सेवामे

Shri Srinibash Sahoo, Managing Partner,
M/s Geetarani Mohanty,
House No-96, Station Road,
Barbil, Dist- Keonjhar,
Odisha-758035

विषय: Approval of Review of Mining Plan of Raikela Iron Ore Mine along with Progressive Mine Closure Plan (PMCP), over an area of 67.586 ha in Sundargarh district of Odisha State, submitted by M/s Geetarani Mohanty under Rule 17 of MCR, 2016.

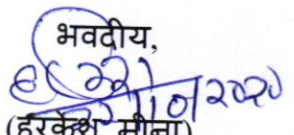
संदर्भ: - i) Your letter No. 33/GRM/IBM/MP/2020-21 dated 29.09.2020 Received on 12.10.2020.
ii) This office letter of even no. dated 12.10.2020.
iii) This office letter of even no. dated 12.10.2020 addressed to Director of Mines, Government of Odisha copy endorsed to you.

महोदय,

This has reference to the letter cited above on the subject. The draft Review of Mining Plan along with Progressive Mine Closure Plan (PMCP) has been examined in this office by Shri Ramkishan R, Senior Assistant Controller of Mines & Shri S R Mazumdar, Senior Mining Geologist. The deficiencies observed are enclosed herewith as Annexure I.

You are advised to carry out the necessary modifications in the draft Review of Mining Plan in the light of the contents vide Annexure 1 and submit **three (3) firm bound and two (2) soft copies of the document text in USB Pendrive/Flash drive in a single MS Word file (the drawing/plates should be submitted in Auto CAD compatible format or JPG format in resolution of 100x100 pixels on same USB Pendrive/Flash drive)** with financial assurance under Rule 27 of MCDR 2017 of the Review of Mining Plan within **15 (Fifteen)** days from the date of issue of this letter, for further necessary action. If the total page of annexures exceeds 50 (Fifty) then it should be submitted as separate volume. But reference of these annexures must appear in the Review of Mining Plan document. The plates are also to be submitted in separate volume.

The para-wise clarifications and the manner in which the deficiencies are attended should invariably be given while forwarding the final copies of the Review of Mining Plan. It may be noted that no extension of time in this regard will be entertained and the Review of Mining Plan will be considered for rejection if not submitted within above due date. It may also be noted that if the deficiencies are not attended completely, the submission would be liable for rejection without further correspondence.

भवदीय,

(हरवेश मीना)
क्षेत्रीय खान नियंत्रक

Copy for kind information and further necessary action to Shri Susanta Maharana, M/s Geetarani Mohanty, House No-96, Station Road, Barbil, Dist- Keonjhar, Odisha-758035.

(हरकेश मीना)
क्षेत्रीय खान नियंत्रक

Scrutiny comment on Review of Mining Plan including PMCP of Raikela Iron Ore Mine of M/s Geetarani Mohanty Limited over an area of 67.586 Ha in Sundergarh district of Odisha

GENERAL:

1. Supporting documents regarding the partnership firm of M/s Geetarani Mohanty has not been furnished like registration details of firm, GST certificate, partnership deed etc., need to submit the same.
2. Under name of the applicant the name of the nominated owner should be furnished. Photo ID, addressee proof and signature proof of the same should also be enclosed.
3. Sequence of paragraph, formats and its numbering as per IBM Manual Appraisal MP 2014 has not been covered in text. All the headings, formats as mentioned in the IBM Manual Appraisal MP 2014 should be furnished in all chapters in the text.
4. IBM registration number with mine code should be furnished.
5. The production proposal during the proposed plan period is more than the existing capacity i.e. 0.864 MTPA which is not mentioned in introduction and also the lessee has not mentioned that the necessary statutory clearances required to enhance the production capacity will be obtained before commencement of production.
6. In Para 3.3, review of earlier approved proposal in respect of exploration, excavation, reclamation etc. should be furnished with reason for deviation etc. The entire proposal of ROM production and achievement should be rechecked and corrected with the data submitted as statutory returns.
7. As it is a review of mining plan submitted so the details furnished under para 3.6 are not relevant. Modify accordingly.

PART-A: (1). GEOLOGY AND EXPLORATION:

8. The details of boreholes already drilled should be furnished in the following tabulated format.

Year of drilling	Exploration Agency	Borehole No	UTM Coordinate		Collar mRL	Borehole Dep	Angle of drilling	Type of drill hole (Core/RC/DTH)	No of samples collected	No of samples analyzed
			Northing	Easting						

9. The lease area explored under different category of UNFC norms is incorrect and should be recalculated as per the provision of Part II point no.4 and part III of Minerals (Evidence of Mineral Contents) Rules, 2015 (MEMC Rules, 21015) and should be furnished. The justification for area considered for G1/G2/G3 etc. have not been furnished as per the provision of MEMC Rules'2015. Necessary corrections to be done at all relevant places of the document and resource estimation.
10. The borehole log and geological section do not corroborate with each other. Need to do necessary correction.
11. Future exploration proposal should be modified to the extent that area that falls under G2 and G3 UNFC category and unexplored area after complying the above scrutiny point should be converted to G1 level of exploration as per exploration norms specified in Part III of MEMC rules 2015. The depth of proposed boreholes should be up to 300 meters or up to discontinuance of ore body, whichever is earlier. In the table under proposed exploration program, a column should be inserted showing the purpose of borehole (for lateral extension or depth ward) conversion of G2, G3 or unexplored area area to G1. Further, the fresh boreholes should be proposed which have been prematurely closed /terminated in ore zone. The proposed year of exploration is different in plan and in text. Need to complete exploration before 2021-22. Accordingly, Necessary changes to be done in exploration proposal.

As per MEMC Rules 2015, check analysis of at least 10% of samples may be analyzed from third party NABL accredited/or department of science & technology (DST) / BIS recognized laboratories or government laboratories for assessing the acceptable levels of accuracy. Accordingly, the proposal should be given under future exploration programme.

12. Lateral influence should be rechecked and corrected considering the provision of Part II point no.4 and part III of Minerals (Evidence of Mineral Contents) Rules, 2015 (MEMC Rules, 2015). Justification of recovery factor has not been furnished. The reference of Bulk density test report has not been mentioned and should be supported with report from NABL laboratory. Necessary corrections to be made at all relevant places. Recovery factor and bulk density for the material between +45%-55% Fe and +55% Fe should be evaluated separately. Accordingly the estimation of reserves and resources also should be modified with final presentation of reserves and resources in UNFC table.
13. The year wise exploration proposal have not been furnished in the format specified in IBM appraisal of mining plan 2014. Need to do necessary corrections.

14. The information of proposed boreholes should be furnished in the following tabulated format.

Sl.No	Year of drilling	Proposed Borehole No	UTM Coordinate		Collar mRL	Proposed Borehole Depth (m)	Angle of drilling	Type of drill hole(Core/RC/DTH)	Forest area/diverted forest area/non-	Surface right area/ non-surface right area
			Northing	Easting						

15. Justification of UNFC codes in tabulated format has not been furnished. Cutoff grade considered for the iron ore mineral should be furnished. Parameters to be consider for resource assessment should be as the points mentioned in IBM appraisal of MP. Need to do necessary correction.
16. Reserves and Resources have to be re-estimated as per the provision of MEMC Rules 2015. Considering the cutoff grade of 55% Fe, the detail calculation of reserve and resources by cross sectional method for the UNFC codes between 45-55% Fe and +55% Fe have not been submitted. As per the provision of Part II point no.4 of MEMC Rules, 2015, the depth ward projection of ore body should be limited up to the depth up to which direct evidence of mineralization has been proved through borehole. Further, the resource estimation has to be done based on latest updated survey. Detail calculation of section wise reserves and resources based on latest updated survey and updating the borehole information by cross sectional method for various categories of UNFC should be furnished showing cross-sectional area, length of influence, volume, bulk density and tonnage. The quantity of ore and mineral reject separately under various level of UNFC has not been furnished. Need to do necessary corrections.
17. As the entire area has not been explored under G1 level, so pre-feasibility report should be prepared and accordingly UNFC categorization of reserves and resources in text and plates should be rechecked and corrected. Need to do necessary corrections.

MINING:

18. Justification for area proposed for mining has not been given with respect to exploration, targeted quantity and grade considering mineral conservation and grade.
19. Justification of equipment should be based on maximum excavation quantity to be handled in five year excavation proposal. Information of existing and proposed machineries with capacity should be proposed. Necessary correction in the calculation need to be done.
20. Conceptual Mine planning should be modified taking into consideration of the revised production from in-situ excavations, available reserves and resources describing the excavation, recovery of ROM, Disposal of waste, backfilling of voids, reclamation and rehabilitation showing on a plan with few relevant sections. Life of mine should be recalculated based on re-estimated resources.

3. MINE DRAINAGE:

21. The max and min depth of working should be given in following tabulated format.

Name of the Quarry	At the end of plan period (mRL)		At the end of conceptual period (mRL)	
	Top	Bottom	Top	Bottom

4.0 STACKING OF MINERAL REJECT /SUB GRADE MATERIAL AND DISPOSAL OF WASTE

22. The nature/ type of mineral reject and waste material have not been described or classified. Necessary corrections to be done. In para 4(c), the waste generation quantity does not match with the proposal for waste generation. Necessary corrections to be done. The disposal of waste and mineral reject and soil to be furnished as per table furnished in IBM Manual appraisal MP 2014.
23. The proposal for dumping may be given in tabulated format as shown below: Further, Build-up of dumps from year to year to be mentioned in text w.r.t. designed capacity of dumps, bottom and top mRL of individual terrace, dump slope, individual terrace height and slope with description of method & manner of disposal of waste should be mentioned. The method of waste dumping should be in retreating manner.
24. Existing as well as proposed protective measures like retaining wall, garland drain, check dams etc., should be furnished in tabular format with details of location, length, dimensions etc., a separate table should be given showing the year wise construction of retaining wall, garland drain and settling tank having specific proposal. Details of year wise proposal for construction of retaining wall, garland drain, settling tank etc. to be given with their location. Proposal for protective measures have not been submitted around mineral reject dumps and waste dumps.

PROCESSING OF ROM AND MINERAL REJECTS:

25. A material balance chart with a flow sheet or schematic diagram of the processing procedure indicating feed, product, recovery, and its grade at each stage of processing has not been furnished. The arrived percentage of recovery of saleable ore and mineral reject should be justified properly with documentary evidence.

OTHERS:

26. Information in respect to the existing and proposed manpower right from management level to unskilled labor both on role and contractual has to be mentioned separately in the text.

PROGRESSIVE MINE CLOSURE PLAN:

27. The air, water and noise monitoring stations and their frequency of monitoring have not been furnished in tabulated format. All water discharge points from lease area to external should be monitored. Accordingly, monitoring proposal to be submitted. Further,
28. All the paragraphs should be addressed in detail under PMCP chapter as per IBM Manual Appraisal MP 2014. The present land use pattern should be furnished as per the format of FA table of different heads.

PLATES (GENERAL):

1. Magnetic Meridian and date of observation should be given on all relevant plans. Date of survey should be given on all plans and sections and signature should bear date of signature. All plans & sections prepared should follow the conventions mentioned under MMR 1961. All plans and sections shall show a scale a scale of the plan at least twenty five centimeters long and suitably subdivided. The plans and sections submitted should bear the certificate that - the plans and sections are prepared based on the lease map authenticated by the state government. The index should be kept same in all the plans and sections.
2. The plans should be prepared on latest survey carried out in the field depicting the exact surface features.
3. **KEY PLAN:** The key plan should incorporate all features as mentioned Rule 32 5 (a) of MCDR 2017. The approach road to the lease area, 5 Km boundary and wind rose diagram etc. has not been shown.
4. With reference to **CCOM Circular No 2/2010**, the geo-referenced mining leases map superimposed on latest high-resolution satellite data has not been submitted over the lease area by certifying the lease area over the plan. Lessee has submitted but area not certified.
5. **SURFACE PLAN:** The index of surface right area shown should be distinct from index of safety zone. The Surface Plan should be prepared to satisfy the provision as laid down rule 32 (1) (a) of MCDR'2017. The DGPS surveyed latitude-longitude and UTM coordinates of all the boundary pillars have not been furnished in tabulated format. The plan should be updated based on the recent survey. Forest area and non-forest area should be demarcated on the plan. Surface right area should be demarcated on the plan.
6. **GEOLOGICAL PLAN & SECTION:**
 - (i) The redefined UNFC boundaries to be shown in Geological Plan and sections. The UNFC codes shown in plans and sections are incorrect and should be corrected as per scrutiny point no 9.
 - (ii) Cross section lines with nomenclature have not been shown on the geological plan.
 - (iii) The Geological Plan should be prepared to satisfy the provision as laid down rule 32 (1) (b), (c) and (d) of MCDR'2017
 - (iv) Index of different grade of limestone do not corroborate with the index shown in plan and sections. Need to recheck and correct at relevant places.
 - (v) Proposed boreholes should be shown in plan and sections. The proposed borehole should be shown in dotted lines in geological sections.
 - (vi) The borehole log do not corroborate with geological sections. The lithology shown in geological plan do not corroborate with lithology shown in section.
 - (vii) Scientific correlation of geological section has not been done as per the provision of MEMC, Rules 2015.
 - (viii) In Geological plan, some of the areas have been shown as blank. In those areas, geology of the area should be shown.
 - (ix) UNFC codes, UPL should be shown in Geological sections.
7. **DEVELOPMENT PLAN & SECTION:**
 - (i) Development plan and sections should be revised based on updated geological map and sections.
 - (ii) Index of the UPL shown in plan and section and those shown in index is different.
 - (iii) The proposed and existing bench mRL to be shown clearly over year wise development plan and sections.
 - (iv) Geological information (lithology) has not been furnished on the area proposed for development in year wise development plan and sections. Plan and section should be drawn on same scale..
 - (v) Existing and proposed protective measures and plantation should be shown in different colors around all waste dumps and mineral reject dumps. Index of safety zone boundary and surface right area should have distinct color.
 - (vi) Year-wise development plan and section should be separately submitted on same scale.
 - (vii) Bench mark should be depicted on geological section.
8. **ENVIRONMENT PLAN:**

The environment plan has not been prepared as per the provision laid down in rule 32 (5) (b) of MCDR'2017.

9. **DUMP PLAN AND SETIONS**

Grid lines not shown in dump plan. Section line drawn in dump plans in not properly depicting the section view of dump. Section line should be drawn where maximum length is covered.

10. **RECLAMATION PLAN:**

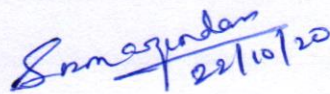
Reclamation plan should be submitted instead of progressive mine closure plan. Existing and proposed protective measures and plantation should be shown in different colors along all waste dumps and mineral reject dumps. Index of safety zone boundary and surface right area should have distinct color.

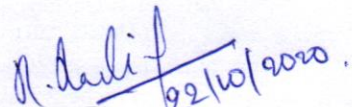
11. **FINANCIAL ASSURANCE AREA PLAN:**

The area degraded due to mining and allied activity and waste dump sites to be considered in FA calculation. The existing area and additional area under different heads should be shown properly under different colored hatching.

ANNEXURES:

1. Few photographs showing Land use of the lease area, environmental status of the area have not been shown.
2. Identity and address proof of lessee should be furnished.
3. Details of Qualified person like experience and qualification as per provision of rule 15 of MCR 2016 should be furnished.
4. Copy of quality of air, water, soil, noise and other environmental a parameters monitoring report of the last year should be enclosed.
5. All the annexure to be properly numbered/paged and relevant annexure to be signed by qualified person etc. It is observed that many of the annexures are not legible. A legible copy of same to be enclosed.
6. Copy of bank guarantee has not been enclosed. Photographs of boundary pillars should be enclosed.
7. Copies of Form J and Form K of all drilled boreholes have not been submitted.
8. The chemical analysis results of borehole samples from NABL accredited laboratory have not been submitted.
9. NABL accreditation certificate of the laboratory has not been furnished.
10. Indexing of borehole logs with page numbers have not been done in sequence


(Sudip Ranjan Mazumdar)
Senior Mining Geologist


(Ramkishan R)
Senior Asst. Controller of Mines